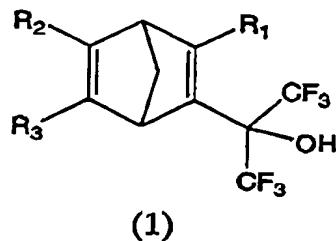


WHAT IS CLAIMED IS:

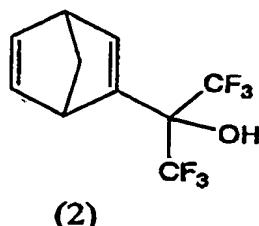
1. A fluorine-containing cyclic compound represented by the formula 1:



(1)

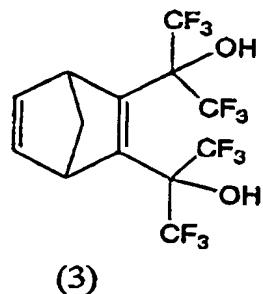
5 wherein each of R₁, R₂ and R₃ independently represents a hydrogen, alkyl group, fluorine, fluoroalkyl group or hexafluorocarbinol group,
wherein at least one of the hexafluorocarbinol groups may partly or totally be protected with a protecting group, and
wherein the protecting group is (a) a straight-chain, branched or
10 cyclic hydrocarbon group having a carbon atom number of 1-25 or (b) an aromatic hydrocarbon group and optionally contains a fluorine atom, oxygen atom, nitrogen atom or carbonyl bond.

15 2. A fluorine-containing cyclic compound represented by the formula 2.

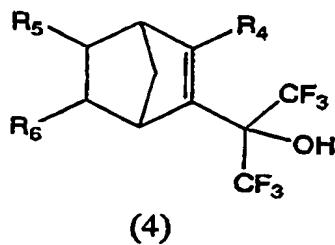


(2)

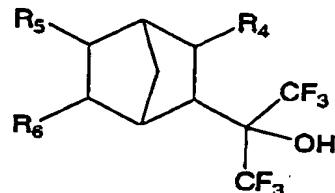
3. A fluorine-containing cyclic compound represented by the formula 3.



4. A fluorine-containing cyclic compound derived from the fluorine-containing cyclic compound according to claim 1 and represented by the formula 4 or 5:



(4)



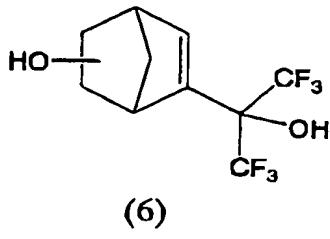
(5)

wherein at least one of R₄, R₅ and R₆ represents a hydroxyl group, and the remaining group of R₄, R₅ and R₆ other than the hydroxyl group represents a hydrogen, alkyl group, fluorine, fluoroalkyl group, or hexafluorocarbinol group,

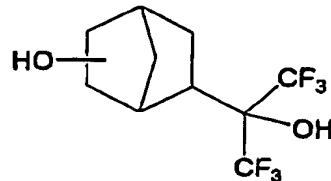
wherein at least one of the hexafluorocarbinol groups of the formula 4 or 5 may partly or totally be protected with a protecting group, and

wherein the protecting group is (a) a straight-chain, branched or cyclic hydrocarbon group having a carbon atom number of 1-25 or (b) an aromatic hydrocarbon group and optionally contains a fluorine atom, oxygen atom, nitrogen atom or carbonyl bond.

5. A fluorine-containing cyclic compound represented by the formula 6 or 7.

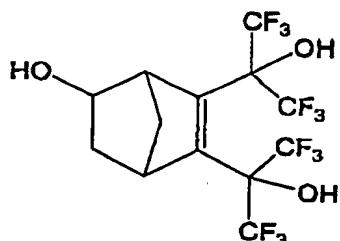


(6)

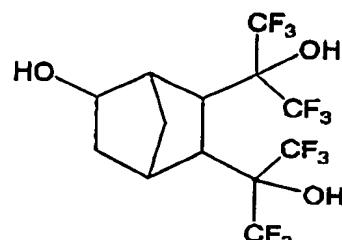


(7)

6. A fluorine-containing cyclic compound represented by the formula 8 or 9.



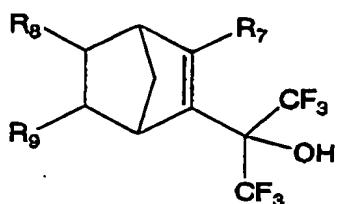
(8)



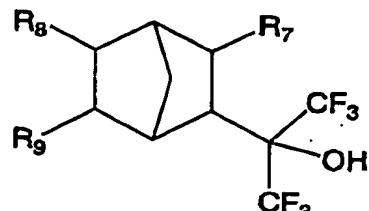
(9)

5

7. A fluorine-containing polymerizable monomer derived from the fluorine-containing cyclic compound according to claim 4 and represented by the formula 10 or 11:



(10)



(11)

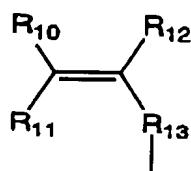
10

wherein one of R₇, R₈ and R₉ in the formula 10 or 11 is a polymerizable group, and the remaining group of R₇, R₈ and R₉ other than the polymerizable group represents a hydrogen, alkyl group, fluorine, fluoroalkyl group, or hexafluorocarbinol group,

wherein at least one of the hexafluorocarbinol groups of the formula 10 or 11 may partly or totally be protected with a protecting group,

5 wherein the protecting group is (a) a straight-chain, branched or cyclic hydrocarbon group having a carbon atom number of 1-20 or (b) an aromatic hydrocarbon group and optionally contains a fluorine atom, oxygen atom, nitrogen atom or carbonyl bond, and

wherein the polymerizable group is represented by the formula 12:



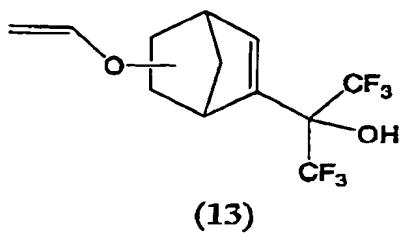
(12)

10 wherein each of R₁₀ to R₁₂ independently represents a hydrogen atom, fluorine atom, or a straight-chain, branched or cyclic alkyl or fluoroalkyl group having a carbon atom number of 1-25, and

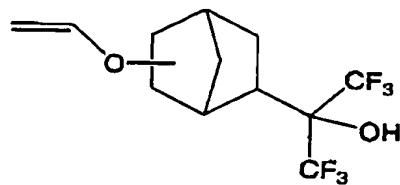
15 wherein R₁₃ represents a single bond, a methylene group, a straight-chain, branched or cyclic fluoroalkylene group having a carbon atom number of 2-20, an oxygen atom, a sulfur atom, -(C=O)O-, or a dialkylsilylene group.

8. A fluorine-containing polymerizable monomer according to claim 7, which is an acrylic ester, methacrylic ester, α -trifluoromethylacrylic ester, 20 vinyl ether, or allyl ether.

9. A fluorine-containing polymerizable monomer represented by the formula 13 or 14.

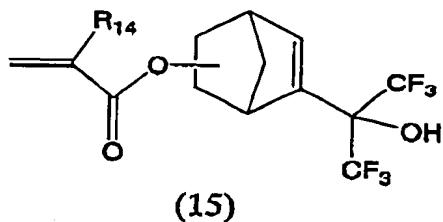


(13)

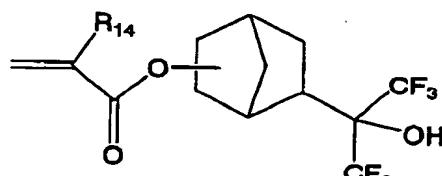


(14)

10. A fluorine-containing polymerizable monomer represented by the formula 15 or 16:



(15)

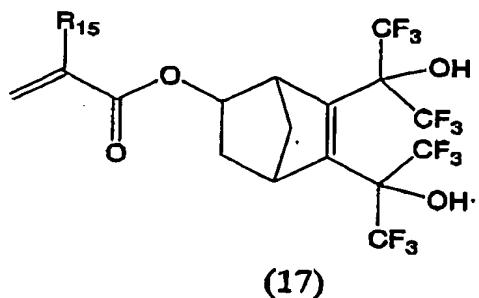


(16)

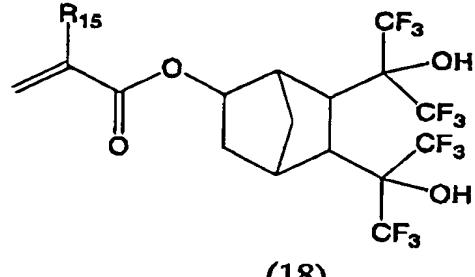
5

wherein R₁₄ of the formula 15 or 16 represents a hydrogen, methyl group or trifluoromethyl group.

11. A fluorine-containing polymerizable monomer represented by the
10 formula 17 or 18:



(17)



(18)

wherein R₁₅ of the formula 17 or 18 represents a hydrogen, methyl group or trifluoromethyl group.

12. A fluorine-containing cyclic compound according to claim 1, wherein at least one of the hexafluorocarbinol groups of the formula 1 is partly or totally protected with an acid-labile protecting group.

5 13. A fluorine-containing polymer prepared by a polymerization or copolymerization using the fluorine-containing cyclic compound according to claim 1.

10 14. A resist composition comprising a fluorine-containing polymer according to claim 13.

15 15. A process for making a resist pattern, comprising the sequential steps of:

15 (a) applying a resist composition according to claim 14 to a supporting member to form a photosensitive layer on the supporting member;

20 (b) exposing the photosensitive layer to a light through a masking pattern to form a first precursory layer;

 (c) heating the first precursory layer into a second precursory layer; and

 (d) developing the second precursory layer into the resist pattern.